

Michigan Department of Environmental Quality
Water Division

NEW COMMUNITY WATER SYSTEM CAPACITY GUIDELINE DOCUMENT

May 1, 2000

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Introduction

The 1996 Amendments to the federal Safe Drinking Water Act (SDWA) required each State to develop a program to ensure that all new community and nontransient, noncommunity water systems (CWS & NTNCWS) demonstrate adequate technical, managerial, and financial (TMF) capacity prior to commencing operation. In April of 1998, the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399), MCL 325.1001 *et seq.*; MSA 14.427(1) *et seq.*, was amended to include new statutory authority for the Michigan Department of Environmental Quality (DEQ) to implement a capacity development program. These amendments also provided the department with the authority to promulgate any rules deemed necessary to implement such a program. The Water Division (WD) will conduct capacity assessments of all new CWS & NTNCWS by the application of policies and procedures based on this statutory authority. New NTNCWS will be reviewed and approved by the local health department having jurisdiction over the proposed facility. The Noncommunity Unit of the Groundwater Section of WD has developed program guidance for the local health departments to follow in making this determination. Developers/owners of proposed NTNCWS should contact the appropriate local health department to determine the approval process.

This *New Community Water System Guideline Document* is designed to help developers/owners of new CWSs to comply with all applicable requirements. It provides general background information on the purpose and objectives of Michigan's capacity development program and discusses the criteria the WD will use to evaluate the TMF capacity of a new community water system.

Specifically, this Guideline Document provides information on:

- Construction Permits. **Prior to commencing any construction**, each proposed new community system must obtain a permit from WD authorizing construction of any water supply facilities. The permit process requires the owner/developer of the proposed system to demonstrate TMF capacity before approval is granted to begin operation.
- The permit approval process, including required and recommended documents to obtain a construction permit and receive approval to commence operation.

If you need more assistance to apply for a construction permit, please contact the appropriate District Office of the WD at the appropriate telephone number listed on the District Office map in **Appendix 1**.

Water System Capacity Development Overview

What are capacity and a capacity assessment?

As defined by the Michigan Safe Drinking Water Act, capacity assessment means an evaluation of the technical, financial and managerial capability of a community or nontransient noncommunity water supply to comply and maintain compliance with all the requirements of the Act and the rules promulgated under the act.

From federal guidance, “capacity” is the overall ability of a system to plan for, achieve, and maintain compliance with applicable drinking water standards. It is an ongoing process of acquiring and maintaining capabilities that enable the system to consistently provide safe drinking water.

What is a community water system?

TMF capacity requirements apply to all new community water systems (CWSs) and new nontransient noncommunity water systems (NTNCWSs) commencing operation on or after October 1, 1999. Again, this Guideline is directed at CWSs.

As defined in the Michigan Safe Drinking Water Act:

- “Public water supply” means a waterworks system that provides water for drinking or household purposes to persons other than the supplier of water, and does not include either of the following:
 - (i) A waterworks system that supplies water to only 1 living unit.
 - (ii) A waterworks system that consists solely of customer site piping.
- “Community supply” means a public supply that provides year-round service to not fewer than 15 living units or which regularly provides year-round service to not fewer than 25 residents.

Most CWSs serve cities, villages and townships. However, a CWS may also be proposed to supply a central water system in other residential developments, including manufactured housing communities, nursing homes, apartment complexes, subdivisions, and condominiums. If these facilities will be served by a central water system that will be in operation year-round, they will meet the definition of a community water supply, and must comply with all appropriate requirements, including capacity development.

What is a new system?

New systems include CWSs that are being constructed, as well as systems that do not meet the definition of a CWS at start-up, but are designed to one day meet the definition. For example, a developer who plans a 30-lot subdivision or a 24-unit apartment complex, will be required to obtain a water system construction permit from the WD, even though Phase I of the construction may include less than 15 living units when it begins operating. In addition, any existing system not currently meeting the community water system definition that proposes to extend its water system through physical expansion, thereby growing to become a CWS, is considered a new system. One exception is the water system that grows to become a CWS by increasing the number of users without altering or constructing water system infrastructure. In this instance, as long as the system=s physical infrastructure is not changed, i.e., a second well or a larger storage tank need not be installed, the system is not considered a new community water system and does not need to comply with the new system capacity development program.

What are the components of capacity?

Capacity has three components: technical, managerial, and financial. Adequate capability in all three areas is necessary for a system to demonstrate capacity.

- *Technical Capacity* is the physical and operational ability of a water system to meet SDWA requirements. It refers to the physical components of the water system, including the adequacy of source water and the adequacy of treatment, storage, and distribution infrastructure. It also refers to the knowledge and ability of system personnel to adequately operate and maintain the system and implement required technical knowledge.

Key areas of concern when evaluating technical capacity are source water adequacy, infrastructure adequacy, and operation and maintenance procedures.

- *Managerial Capacity* is the ability of a water system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with SDWA requirements. Managerial capacity refers to the system=s institutional and administrative capabilities.

Key areas of concern when evaluating managerial capacity include ownership accountability; the overall organizational structure of the system; defined lines of authority and responsibility between owners, managers, operators, and customers; operator training and certification; managerial

and decision-making processes; and appropriate experience and expertise of managerial personnel.

- *Financial Capacity* refers to a water system=s ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with SDWA requirements.

Key areas of concern when evaluating financial capacity include reliable cost and revenue projections that demonstrate revenue sufficiency, and sound fiscal management and control policies and procedures.

How will the new systems capacity development program be implemented for CWSs?

The construction permit and approval process will be used to gather information necessary for the WD district staff to determine if a system has adequate TMF capacity.

Construction Permit Overview

What systems are required to obtain construction permits?

All Community Water Systems must obtain a construction permit prior to modifying or constructing a waterworks system. Therefore, any construction or modification of waterworks facilities will require plans and specifications to be submitted to the district office. A construction permit will not be issued until the applicant submits the technical capacity information outlined on page 7 under “**General requirements for a construction permit**”.

Local health departments issue Act 399 construction permits for NTNCWSs. For information about obtaining a construction permit for a proposed NTNCWS, please contact the appropriate local health department office.

When should I apply for a construction permit?

The Water Division recommends that you or your consulting engineer contact the appropriate district office as soon as possible. It is going to take time to gather the information necessary for staff to conduct the capacity assessment and approve the proposed water system, which begins by scheduling a well site inspection to approve test well drilling. After such approval is granted, it is necessary to install a test well, conduct a pump test and aquifer analysis, and prepare the engineering plans and specifications for waterworks facilities. Before approval is given to commence operations, it will also be necessary to provide information about the ownership, operation and maintenance of the proposed system, which will be included in an Operations Plan. Additional information may also be necessary, depending on the size and complexity of the proposed system. To ease the approval process, these matters, and any others, can be discussed during this conference.

To prevent undue delay during the review and approval process, we recommend a conference be arranged with district staff prior to any water system design. This conference can be used to ease the approval process, schedule the test well site inspection, and ensure all requirements will be addressed so approval to commence operation can be granted at the time of the Final Inspection.

Why is it important to obtain construction approval?

A construction permit provides evidence that the water system went through the planning process and has demonstrated the capacity to comply with drinking water regulations now and in the future. The planning and permitting process will help ensure that the public to be served by the proposed waterworks system will be provided with safe water.

When can the water system begin operation?

After the water system has demonstrated adequate technical, managerial and financial capacity, which is documented during a final inspection and in an Operations Plan submitted by the owner/developer.

Permit Requirements for Demonstration of Capacity

General requirements for a construction permit

Information required by the approval process, both for the construction permit and the final inspection, touches on the technical, financial and managerial components of capacity. This TFM information may be collectively referred to as the **Capacity Plan**. A comprehensive Capacity Plan will include the information necessary to obtain a construction permit (as described below) along with a written **Operations Plan** and a **Budget Plan**, both of which are discussed in more detail in the following sections.

We recognize that the owner/developer of a proposed CWS may not be aware of their financial and managerial capacity requirements at the time they request approval to proceed with construction. As a result, the WD has established the following requirements to obtain a construction permit, with the stipulation that the additional financial and managerial capacity requirements (in the Budget & Operation Plans) will be submitted prior to final inspection and approval to commence operation. A **Flow Chart** describing the approval process for a proposed CWS is located at the end of this section.

To obtain a construction permit, the following documents must be submitted to, and approved by, the Water Division:

- A project summary
- Detailed plans and specifications
- An Engineering report, or design calculations, where appropriate
- For a groundwater supply, an aquifer analysis, well construction details, and ownership or acceptable control of the required well isolation area
- For a surface water supply, a sanitary survey of the proposed source and a vulnerability assessment
- For a purchased supply, documentation of the purchase agreement or contract, including the conditions of service (capacity, pressures, etc.)
- Chemical analyses of the source(s)
- An analysis of system reliability to continuously supply finished water

Project Summary

A project summary must include the initial population to be served, the proposed service area, and the anticipated growth for 5 and 10 years. It is also

recommended that 20-year projections be included in this document. Using these projections, system demands can be estimated. This analysis is similar to the Reliability Study requirements for existing water systems. The project summary should also include a site plan and/or maps, an evaluation of the water supply alternatives considered and the reason(s) for the selected alternative.

Detailed Plans and Specifications

New systems must submit maps and detailed plans and specifications that have been prepared by, or under the direct supervision of, a registered professional engineer. These plans should be sealed by the registered engineer, and be accompanied by a cover letter explaining the proposed project. The plans and specifications should describe the water system facilities to be constructed, including the basis of design for the selected alternative, and the materials, methods and procedures to be used during construction.

Detailed plans and specifications must conform to the requirements of the Michigan Safe Drinking Water Act. They should also follow the appropriate sections of the "Recommended Standards for Water Works" published by the Great Lakes Upper Mississippi River Board of State Public Health and Environmental Managers.

The system must be constructed in accordance with the approved plans. Any changes, other than minor alterations, require the submission of revised plans and specifications. A new or amended construction permit must be obtained prior to making any changes to the system.

The Engineering Report, or design calculations, where appropriate

A new system must submit a detailed description and the basis of design for any proposed treatment process. This information may be included in the project summary, along with appropriate design calculations, such as:

- Estimated average day, maximum day, peak hour, and for hydropneumatic systems, instantaneous system demands
- Firm pumping and treatment capacities
- Sizing of chemical feed systems and proposed application rates
- Treatment loading rates and disinfectant contact times assuring adequate disinfection
- Procedure for calculating storage volumes

- System flow and pressure requirements, and fire demands if provided

As with the project summary, these design calculations need to be prepared by a professional engineer licensed in the State of Michigan.

Aquifer Analysis, well construction details and well isolation area control

A proposed groundwater system must conduct a pump test and perform an aquifer analysis to determine the safe yield of the proposed well at a site previously approved for test well drilling. This evaluation will provide the basis for well design. In addition, any reduction of the well isolation requirements will be based on the aquifer analysis confirming the presence of a confined aquifer. The procedure to be used for the pump test and aquifer analysis should comply with the WD policy, ***“Aquifer Test Requirements for Public Water Supply Wells”***. A copy of this policy is located in **Appendix 2**. The well construction details that must be submitted for a construction permit include a well site plan, a well log, grouting details (WD policy "Grouting of Community Water Supply Wells" dated December 27, 2000 is in Appendix 10), casing diameter and length, screen size, and any other pertinent information (elevations with respect to the 100-year flood elevation). Plans for the well house, well head, discharge piping and appurtenances must also be included in the plans and specifications. Appurtenances that must be provided include:

- Meters
- Pump-to-waste piping
- A means to measure drawdown
- Sampling tap(s)
- Emergency treatment facilities
- Casing vents
- air release/vacuum relief valves
- Pitless adapters for submersible pump installations

It will also be necessary to demonstrate ownership or acceptable control of the required well isolation area before a construction permit will be issued.

Sanitary Survey and Vulnerability Analysis

A proposed surface water system must submit a sanitary survey of the proposed water source, including the capacity available, the normal water quality, any significant or seasonal variations in water quality, and the suitability for any proposed treatment. An assessment of the vulnerability of the proposed source to

known and potential sources of contamination must also be submitted. If water quality data does not exist for the proposed source, it may be necessary to conduct sampling and analysis for a period of six months to one year.

Purchase Agreement of Contract for Service

If water is to be purchased from another system, documentation of the purchase agreement or contract will be necessary before a construction permit can be issued.

WD does not want to approve of a new water system that has not secured an abundant and reliable source of supply. Such contracts for service should define conditions of service, such as the flow rate, duration and delivery pressure to be provided. They should also assign operational responsibilities for the system to the various parties.

Chemical Analyses

A system must submit results of chemical analyses performed upon samples collected from the proposed source. This information will be used to assess the treatment that may be necessary. The developer of a proposed CWS will be provided with the monitoring requirements for a proposed well as a part of the test well site inspection and approval. Typically, chemical analyses for nitrate, nitrite, fluoride, sodium, chloride, total dissolved solids, complete metals, volatile organic chemicals, synthetic organic chemicals and radioactivity will be required. Chemical analyses that will be used to determine compliance with drinking water standards must be performed at a State certified laboratory.

Reliability Analysis

Community Water Systems serving 50 or more service connections and 200 or more individuals are required to provide a means to continuously supply finished drinking water to the entire distribution system during periods when the normal power service is interrupted. The developer of a proposed CWS shall submit an analysis of system reliability demonstrating how compliance with this requirement will be achieved. This analysis may be included in the project summary or the engineering report, or it may be submitted as a separate document. If standby power facilities are going to be included in the proposed project, design details shall be included in the plans and specifications.

Private Ownership Requirements

In addition to the requirements listed above, it will also be necessary for a privately owned system to comply with the private ownership requirements established in Part 17 of the administrative rules promulgated under the Michigan Safe Drinking Water Act, which include:

- A resolution from the local governmental unit indicating their refusal to own or operate the proposed public water system
- A **consent agreement** with DEQ stipulating the manner in which the system will be constructed, operated and maintained (see **Appendix 3**)
- A continuing, cash escrow fund available to the DEQ for emergency repairs or maintenance
- Easements for portions of the waterworks system not located in the public right-of-way, including the well isolation area, that are used in the operation of the system
- An agreement to transfer ownership and operation to an appropriate governing body
- An acknowledgement that the owner will notify and receive approval from the department prior to a proposed change in ownership
- Demonstration of clear ownership of all facilities necessary for operation of the system

Just like a publicly owned CWS, a proposed privately-owned public water supply will need to provide a description of the system's organizational structure identifying the persons responsible for all aspects of water system management and operation. A description of the water system's legal basis and the address and telephone number of two people responsible for the day to day oversight of the system will be required.

General Requirements for the Final Inspection & Approval to Commence Operation

The above listed requirements must be reviewed and approved by staff in the district office of the WD prior to issuing a construction permit. Other information that must be submitted at the same time or provided **prior to the Final Inspection** and before commencing operation include:

- An **Operations Plan**, to include:
 - A Sampling Site Plan
 - A Contingency Plan
 - A Cross Connection Control Program
 - Operation & Maintenance Procedures
 - Standard Specifications

- Operator Training
- Customer Complaint Procedures
- A 5-year **Budget Plan**, to include:
 - A summary of expected revenues and expenses
 - An evaluation of the cost to connect to any reasonably available, existing public water supply
 - Acknowledgement of the annual water supply fee
 - Designation of the operator-in-charge having the necessary certification
 - A plan for providing legal doctrines, including ordinances, policies, practices, resolutions, etc.
 - Any leases or easements necessary for operation and maintenance

Operations Plan

An Operations Plan is a written document that provides guidance on daily routine and trouble shooting operations as well as information on system maintenance. As a minimum, the Operations Plan shall include the following:

- A plan for water quality monitoring, including a Sampling Site Plan that complies with the coliform monitoring requirements. An example of a **Sampling Site Plan** is provided in **Appendix 4**.
- A Contingency Plan outlining response procedures for water system emergencies such as a power outage, water quality violations, and emergency disinfection. A form that may be used to prepare a **Contingency Plan** is provided in **Appendix 5**.
- Routine procedures for operation and maintenance of pumps, motors, storage tanks, meters, valves and hydrants, including procedures for water main repairs and system flushing.
- Standard specifications for waterworks system components
- A **Cross Connection Control Program**. A model ordinance and suggested program are located in **Appendix 6**.
- A plan for ongoing operator training
- Customer complaint response procedures

Other information that may be included in the Operations Plan include:

- A General Plan of the system, or “as-built” drawings
- A safety program and procedures for employees
- Copies of any leases or easements necessary for routine operation
- A vendor list

- Record maintenance procedures
- Metering policy
- Any other water system policies, ordinances, or rules

Budget Plan

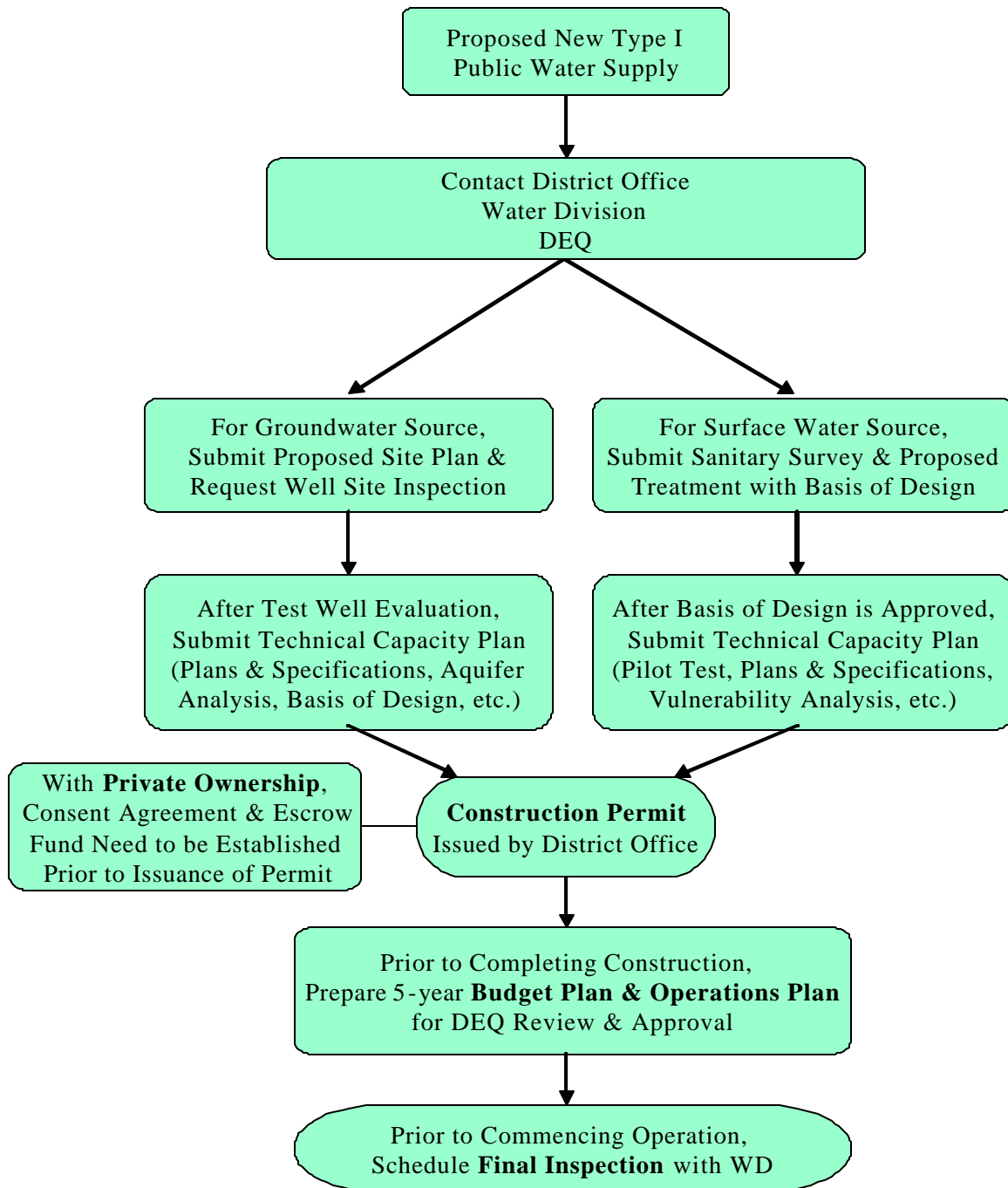
All new water systems must submit financial information that includes a Budget Plan for a minimum of five years. This Budget Plan shall include a summary of expected annual revenue sources, an accounting of anticipated and planned expenses, administrative costs, capital replacement costs and a description of the method of payment for the construction, operation and maintenance of the proposed Community Water System. A **Financial Workbook** that itemizes this information can be found in **Appendix 7**. Other financial information that should be included with the Budget Plan include a comparative analysis of the cost of the proposed public water system with the cost of consolidating with an existing, reasonably available public water supply. An acknowledgement of the annual water supply fee imposed by the DEQ at the beginning of each fiscal year should also be included in the submittal.

Capacity Plan = Design Criteria for a Construction Permit + Operations Plan + Budget Plan + Private Ownership Requirements (if appropriate)

Capacity Assessment Checklist for New Community Water Systems

To provide new Community Water Systems and their consultants with a comprehensive summary of the information that must be submitted for a construction permit and ultimately, receive final approval to commence operations, a **Capacity Assessment Checklist** has been developed. This Checklist can be used by the owner and the consulting engineer to summarize the mandatory information that may be contained in one or more of the documents, reports, analyses, plans, etc., that are described previously in this section. A copy of the **Capacity Assessment Checklist** can be found in **Appendix 8**. Developers and consulting engineers are reminded that while this checklist can be used for submittal to the WD for a construction permit, much of the information contained on the checklist will need to be explained further in a Project Summary, an Engineering Report, an Aquifer Analysis, a Budget Plan and/or an Operations Plan.

Capacity Development Flow Chart for New Systems



Criteria for Assessing Technical, Managerial, and Financial Capacity

The Water Division has developed criteria to assess the technical, managerial, and financial capacity of new CWSs. All documentation requirements described in the previous chapter must be met in addition to the following:

Technical Criteria

A demonstration of technical capacity is accomplished by documenting that the system has an adequate and reliable source, has the needed infrastructure, and has the capability for proper operation and maintenance.

Technical capacity criteria include:

- A Project Summary or Engineering Report as described in the previous section of this document.
- Finished water must be able to meet all required drinking water standards (i.e. source water adequacy, source water protection, and infrastructure adequacy).
- An Operations Plan as described in the previous section of this document.
- As-built drawings including maps showing the location of all of the facilities, existing service areas, sources of supply, and other critical facilities.
- A Final Inspection verifying that the waterworks system was constructed in accordance with the approved plans and specifications.

Managerial Criteria

A demonstration of managerial capacity is accomplished by documenting that the water system has the institutional and administrative capabilities to achieve and maintain compliance with the SDWA.

Managerial capacity criteria include:

- An organizational chart that shows clear lines of authority and responsibility, and identifies a person(s) with decision-making authority.
- A description of the water system's legal basis and a demonstration of clear ownership of all the facilities necessary for operation of the system.
- Satisfaction of the State's operator certification requirements.
- A plan for keeping operators and management current with the regulatory requirements of managing and operating a CWS (continuing education requirement for certified operators).
- By-laws, policies, and procedures for municipalities, cooperatives, homeowners associations, and similar organizations that define system and customer responsibilities and demonstrate acceptable management and decision making processes. Examples include:
 1. Budget development and rate structure.
 2. Water system responsibilities (notification procedures, rate setting, etc.).
 3. Customer responsibilities (service lines, access for monitoring, etc.).
 4. A cross-connection control program.
 5. A plan for water quality monitoring, including a Sampling Site Plan.
 6. A Contingency Plan, including response procedures for water quality violations.
 7. Routine operation and maintenance programs.
 8. Policies for extending water service, shut-off for non-payment, future connection fees, hydrant rental fees, etc.
 9. Customer information or public education programs (public meeting notification, bill information, consumer confidence reports, etc.).

Financial Criteria

To establish adequate financial capacity, systems are required to demonstrate that they have adequate revenues to meet all projected expenses in operating and maintaining the system. The criteria described below require the submission of a projected 5-year budget including revenues, operating expenses, rate and fee structures, reserves, and a capital replacement plan. This information is required as part of the Budget Plan.

Financial capacity criteria include:

- Itemization of projected expenses and revenues, including such costs as equipment maintenance, required monitoring, and annual fee.
- Comparisons of all anticipated water system revenues and planned expenditures for a 5-year period.
- Identification of reserve accounts for O & M funds and emergencies.
- Implementation of sound fiscal management and control policies and procedures.

Legal Authority for the Capacity Development Program

Statutory Authority

The statutory authority for Michigan's capacity development program originates in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, MCL 325.1001 *et seq.*; MSA 14.427(1) *et seq.*, and administrative rules, 1995 AACRS, R 325.10101 *et seq.* The authority for the department to conduct capacity assessments can be found in Section 325.1003 (3b), which allows the department to conduct a capacity assessment at a community supply, a nontransient noncommunity water supply, or a public water supply applying to the department for a loan from the Drinking Water Revolving Loan Fund (part 54 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.5401 to 324.5418).

The specific authority for conducting capacity assessments of new systems can be found in Section 325.1004 (2) of Act 399, which states:

“Upon receipt of the plans and specifications for a proposed waterworks system, the department shall evaluate the adequacy of the proposed system to protect the public health by supplying water meeting the state drinking water standards. The department shall also conduct a capacity assessment for a proposed community supply or nontransient noncommunity water supply and determine if the system has the technical, financial, and managerial capacity to meet all requirements of this act and the rules promulgated under this act, on the date of commencement of operations. If upon evaluation the department determines the plans and specifications to be inadequate or the capacity assessment shows the system to be inadequate; the department may return the plans and specifications to the applicant and require additions or modifications as may be appropriate. The department may reject plans and specifications for a waterworks system which it determines will not satisfactorily provide for the protection of the public health. The department may deny a permit for construction of a proposed community supply or a nontransient noncommunity water supply if the capacity assessment shows that the proposed system does not have the adequate technical, financial, or managerial capacity to meet the requirements of this act and the rules promulgated under this act.”

Other Regulatory Requirements

To implement the new community water system provisions of the capacity development program, the Water Division implemented a policy titled, “**New Systems Capacity Assessment Policy**” on October 1, 1999. In this policy, the authority is more clearly identified. A copy of this policy is provided in **Appendix 9**.

In addition to the authority described in this policy, many of the existing rules of the Michigan Safe Drinking Water Act address technical and managerial capacity criteria. Specifically, the following Parts of the rules cover items now required as a part of a capacity assessment for a new community water system.

- *Part 7 – Surveillance, Inspection, and Monitoring* establishes monitoring requirements for public water supplies and outlines the oversight responsibilities of the WD.
- *Part 8 – Groundwater Sources* establishes the procedure for approval of proposed wells, including the requirement for a hydrogeological study. This part also identifies well construction requirements and the necessary well appurtenances for all CWSs.
- *Part 9 – Surface Water Sources* establishes requirements for the development of a surface water source, including evaluation criteria and intake design.
- *Part 10 – Treatment Systems and Pumping Stations* establishes the treatment requirements for systems relying upon a surface water or groundwater under the direct influence. It also describes some of the design requirements for pumping stations.
- *Part 11 – Distribution Systems and Storage Tanks* establishes requirements for design and installation of water mains and storage tanks.
- *Part 12 – Reliability* describes the requirements for maintaining the reliability of public water supplies to assure a continuous supply. Included in this section is the requirement to identify existing and projected system needs on a 5 and 10-year basis, and to propose a method of complying with system capacity requirements. This section also establishes the minimum number of wells, the requirement for standby power, and the procedure for responding to an interruption in service.
- *Part 13 – Construction Plans and Specifications and Permits* prescribes requirements of CWSs regarding the submission of plans and specifications or other pertinent information for the construction of a waterworks system. It includes the requirement for an Engineering report, basis of design, and a cover letter explaining the plans and specifications.
- *Part 14 – Cross Connections* requires a Community Water System to develop a cross connection control program.

- *Part 16 – General Plans* identifies the items required in a general plan or map of the water system.
- *Part 17 – Ownership of Public Water Supplies* identifies the requirements for private ownership of a public water supply to be approved, including the need for a local governmental resolution, a consent agreement, and an escrow fund.
- *Part 19 – Examination and Certification of Operators* identifies the certification requirements for operators in charge of water treatment and distribution systems. It includes continuing education requirements to maintain the certification.
- *Part 23 – Contingency Plans* requires the preparation of a plan for emergency response and requires notification of the WD when an emergency affecting the public health is discovered.

The Michigan Safe Drinking Water Act and Administrative Rules can be viewed on the web page of the Water Division (<http://www.deq.state.mi.us/dwr/>). Compliance with the capacity development and permitting requirements of the Michigan Safe Drinking Water Act, Administrative Rules, and the “New Systems Capacity Assessment for Community Public Water Systems” is the first step in providing safe water to consumers. Additional regulations and requirements may be imposed by other agencies, such as occupational and safety regulations, water conservation measures, etc.

Appendix 1 – District Office Map & Addresses

Download the most up-to-date version of this appendix at www.michigan.gov/deq.

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Under Program and Activities, click on Capacity Development

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Appendix 2 – Aquifer Test Requirements for Public Water Supply Wells

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Appendix 3 – Consent Agreements for Private Ownership of Public Water Systems

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Appendix 4 – Sampling Site Plan

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Appendix 5 – Contingency Plan Models

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Appendix 6 – Cross Connection Control Suggested Program and Model Ordinance

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Appendix 7 – Financial Capacity Workbook

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Appendix 8 – Capacity Assessment Checklist for New Community Water Systems

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Appendix 9 – New Systems Capacity Assessment Policy for Community Water System

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Appendix 10 – Grouting of Community Water Supply Wells

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